

U.S. APPLICATION NO. 09/628,804
AMENDMENT UNDER 35 U.S.C. § 1.116

REMARKS

Claims 1-3 and 8-11 are all the claims pending in the application. By this Amendment, Applicants are amending claims 1, 8, and 9.

Claims 1-3 and 8-11 are rejected under 35 U.S.C. § 112, second paragraph, for the reasons set forth at pages 2-3 of the Office Action. Applicants are amending the claims to overcome this rejection. Applicants' amendments to the claims are not intended nor believed to be narrowing amendments foregoing any equivalents under Festo.

Should the Examiner maintain that any of the claims are indefinite under Section 112, the Examiner is kindly requested to telephone the undersigned attorney to discuss ways of resolving the matter.

The prior art rejections are summarized as follows:

1. Claims 1-3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lugten (USP 3,483,499) in view of Val et al. (USP 5,640,760) and EP 782 154 ("EP '154").
2. Claims 8-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lugten in view of Val et al.

Applicants respectfully traverse.

Claim Rejections - 35 U.S.C. § 103

In rejecting claims 1-3, the Examiner responds to Applicants' arguments set forth in their Amendment of July 25, 2001 as follows:

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While it is true that the examiner agrees with the applicants' contention that Lugten teaches molding an insulative material on the stacked assembly *after* the interconnection of the conductive tracks T1, T2, etc., the suggestion of the encapsulation by Lugten does not teach away from the claimed manufacturing method because the encapsulation does not prevent the interconnections T1, T2 from occurring. However, the order of steps, i.e. cutting the stacked assembly *after* molding, was relied upon in Val et al (beginning at col. 3, lines 6+). The teachings of Val provide an improvement over Lugten to allow circuit patterning to occur on the edges of the stacked assembly at a common alignment level. This circuit patterning ultimately provides the stacked assembly to be electrically connected with other electrical circuits, or even better perhaps, with other electrical components.

Furthermore, the examiner also traverses the applicants contention that Lugten does not teach batch fabrication. The module of Lugten is for batch manufacturing or fabrication of multiple modules as suggested at col. 6, lines 4-8.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Lugten in combination with Val et al, each share the concepts of circuit patterning in the formation of module of a stacked assembly to allow electrical interconnection with other electrical circuitry or other electrical components. Therefore, pursuant to MPEP § 706.02 (j), the examiner has established a *prima facie* case of obviousness and maintains the grounds of rejection above.

Office Action at pages 6-7. Applicants respectfully disagree.

First, Applicants maintain that their arguments set forth in the Amendment of July 25

remain pertinent and are fully incorporated herein.

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Regarding the Examiner's position that "[t]he module of Lugten is for batch manufacturing or fabrication of multiple modules as suggested at col. 6, lines 4-8," Applicants note that the batch manufacturing referred to in Lugten is that of individual wafers, and not the stacked inductive device.

Furthermore, the batch manufacturing disclosed in Val et al. is apparently not readily adaptable for batch manufacturing of stacked wafers for the inductive device of Lugten. Specifically, Val et al. teaches mounting packages 21 in a series of rows and columns to a printed circuit board, with adjacent packages electrically connected to common tracks 25 that are later severed. It is apparent from Fig. 2a, for example, that the packages 21, with connection regions or leads 22 extending from both sides, is readily adaptable for batch manufacturing. That is, the connection regions 22 of the packages 21 are symmetrically located on both sides, so that the slicing planes will produce identical bars 32.

In Lugten, however, the conductive turns are not symmetrically placed on both sides of the wafer. Furthermore, the terminals t1, t2, etc, when stacked, are staggered.

Moreover, as explicitly disclosed in this reference, the conductive turns are formed on the wafers so that

the essential result being a conductive turn or loop, u, extending around the aperture, v, and connecting at respective ends to the set of terminals t1 and t2. The terminals of each set are extended so as to lie or extend in part on and across the adjacent edge of the respective wafer, and the terminals are staggered.

Lugten at column 3, lines 25-30 (emphasis added). Clearly, therefore, Lugten et al. would teach away from the batch manufacturing disclosed by Val et al., since the terminals of the individual

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wafers could not be made to "extend in part on and across the adjacent edge" of the wafer as deemed essential by Lugten. That is, Lugten requires the conductive loop, when formed on the wafer, to be connected to a terminal that extends on and across the edge of the wafer. Clearly this cannot be accomplished if the wafer is severed using the batch processing of Val et al. The MPEP mandates that "the references must be considered as a whole," and, therefore, requires the Examiner to consider and confront those passages of Lugten that lead away from the claimed invention. MPEP § 2141.

Additionally, Applicants note that in the present invention, the stacked elements may all be identical, with the selection of the interconnections being realized when routing onto the faces of the module once the module is molded and cut. In Lutgen, however, each element has a precise position in the module and cannot be interchanged.

In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

A Petition for Extension of Time with fee is being submitted herewith.

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Applicant also hereby petitions for any additional extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,


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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

Claim 1. (Twice Amended) A method of obtaining a module including at least one inductive winding made up of [one or more conductive tracks] sets of turns of conductive tracks on a printed circuit film support on which said conductive tracks form turns which are combined to form [one or more windings] at least one winding, which method includes the following steps:

- forming a stacked assembly by stacking a plurality of aligned modular printed circuit film elements, each carrying a respective set of turns of [one or more] conductive tracks which form part of the [one or more windings] at least one winding and whose [one or more] conductive tracks terminate at or near an edge of the printed circuit film element,
- molding an insulative material over the stacked assembly of modular printed circuit film elements to constitute a rigid block,
- cutting the rigid block laterally along the stacked assembly to expose respective ends of the conductive tracks at a common alignment level and so that the exposed ends are flush with a surface of one face of the block, which cutting step is performed at least once, and
- creating connections on the one face of the block with which the exposed ends are flush to interconnect the respective conductive tracks selectively and to connect the respective conductive tracks to connection means external to the module.

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Claim 8. (Amended) A method of obtaining a module, comprising the steps of:

providing a first support and a second support;

forming at least a first conductive track having turns on the first support to form a winding thereon, wherein the first conductive track terminates at or near an edge of the first support;

forming at least a second conductive track having turns on the second support to form a winding thereon, wherein the second conductive track terminates at or near an edge of the second support;

stacking the first support on top of the second support to form a stacked assembly;

molding an insulative material over the stacked assembly to form a block;

cutting the block laterally along the stacked assembly to expose respective ends of the first and second conductive tracks at a common alignment level and so that the exposed ends are flush with one face of the block; and

interconnecting the conductive [track elements] tracks on the one face of the block.

Claim 9. (New) The method claimed in claim 8, further comprising the steps of:

providing a supplementary support that carries an electrical component and that has a conductive track terminating at or near an edge of the [first] supplementary support;

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prior to molding the insulative material over the stacked assembly to form a block, stacking the supplementary support with the first support and the second support so that the stacked assembly includes the supplementary support, the first support, and the second support, and so that the step of cutting the block laterally along the stacked assembly exposes respective ends of the conductive tracks on the supplementary support, the first conductive tracks and the second conductive tracks at [a] the common alignment level and so that the respective exposed ends are flush with one face of the block.